

Remarks

Status of the Claims

This paper is filed in response to the Office Action mailed November 5, 2009 in which claims 1-11 were pending in the application. All pending claims stand rejected. By this paper, claims 1-11 are amended. Support for the amendments may be found, *inter alia*, in the claims as originally filed, the Specification on pages 5-7, and in Figs. 1-7. For at least the reasons set forth below, Applicants submit that each of the pending claims is patentably distinct from the cited references and is in condition for allowance. Reconsideration is respectfully requested.

Rejections Under 35 U.S.C § 102 and §103

Claims 1-7 and 9 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,035,706 to Giantureo et al. ("Giantureo").

Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Giantureo in view of U.S. Publication No. 2002/0058986 filed by Landau et al. ("Landau").

Claims 10 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Giantureo in view of U.S. Patent No. 6,375,676 to Cox ("Cox").

Applicants have amended independent claim 1 to recite "a connector positioned inside the tubular support frame to securely couple together the first and second thread ends," "displacement of the connector relative to the stent along a longitudinal axis of the stent results in contraction of at least two of the plurality of

annular segments,” and “a thread at least partially encircling the tubular support frame outside of the circumference of the tubular support frame,”

Applicants respectfully submit that Giantureo, Landau, and Cox, individually or in combination, do not teach or suggest all the elements of the claims as amended.

A. Giantureo Does Not Teach a Connector Securely Coupling the First and Second Thread Ends

Giantureo does not teach or suggest “a connector positioned inside the tubular support frame to securely couple together the first and second thread ends.” The Office asserts that tube 70 of FIGS. 10A-10C of Giantureo discloses a connector as recited in claim 1. Office Action p. 2, ¶ 2. The tube 70 of Giantureo, however, does not “securely couple together the first and second thread ends.” The free ends are merely threaded through tube 70. Tube 70 simply does not securely couple together the ends. At best, Giantureo provides that “the free ends 56a and 56b are tied together” – i.e. without a connector as recited in claim 1. Nor is the tube 70 of Giantureo “positioned inside the tubular support frame.” Rather, Giantureo makes clear that the tube 70 is introduced externally. The “tube 70 is threaded over the free ends of the monofilament 56 and inserted into the body passageway along the monofilament until it is adjacent the implanted stent.” Giantureo col. 5, lines 60-64. Giantureo further makes clear that the “free ends 56a and 56b of the monofilament 56 extend . . . exterior to the patient’s body for access after the stent has been inserted.” Giantureo col. 5, lines 28-31. Moreover, Giantureo provides that “ends 56a and 56b are situated outside the puncture site [outside the body] and are sufficiently long to be anchored onto the skin nearby.” Giantureo col. 5, lines 37-40. For at least these reasons, Giantureo does not teach or suggest a connector

positioned inside the tubular support frame to securely couple together the first and second thread ends, as recited in claim 1.

B. Giantureo Does Not Teach Displacement of the Connector To Contract Multiple Annular Segments

For at least these same reasons Giantureo does not teach or suggest that "displacement of the connector relative to the stent along a longitudinal axis of the stent results in contraction of at least two of the plurality of annular segments." Because tube 70 does not securely couple the ends 56a and 56b together, and is not securely coupled to the ends, displacement of tube 70 does not result in any contraction. In fact, tube 70 must be displaced relative to the stent of Giantureo simply to be introduced, and this displacement does not result in any contraction of the stent. Giantureo col. 5, lines 60-64 (providing that "tube 70 is threaded over the free ends of the monofilament 56 and inserted into the body passageway along the monofilament until it is adjacent the implanted stent").

Giantureo further makes clear that displacement of the ends 56a and 56b merely results in contraction of one end of the stent. Giantureo provides that "the free ends of the monofilament 56 can be pulled through the tube 70, thereby compressing or contracting one end of the stent to a reduced diameter. The successive eyes around the circumference of the stent of Giantureo are positioned at one end, such that pulling the ends of a thread passing through the successive eyes causes desired contracting of the one end of the stent. Only by compressing one end can the stent be removed in the manner taught by Giantureo. To remove a stent in the manner taught by Giantureo, the end of a stent must be compressed and slipped into a sheath, and the sheath then "contacts and compresses the remaining

length of the . . . stent . . . [and] the entire assembly can be removed from the body passageway.” Giantureo col. 6, lines 6-12.

Moreover, a person of ordinary skill would recognize that the design of the stent of Giantureo is such that only a single end of a stent can be contracted by a single thread. Multiple ends and/or multiple stents simply cannot be contracted by a single thread. The Office may assert that passing a thread through successive eyes not on an end, but at an intermediate portion where adjacent stents of a combination of multiple stents are coupled, as shown in FIGS. 5 and 6, would be obvious and would result in contraction of multiple stents. Applicants respectfully submit that in fact this is not taught or suggested by Giantureo where such an arrangement would render Giantureo inoperable. In such an arrangement only a middle portion of the stent would contract, but not an end. Because only a middle portion of the stent would contract, and not an end, the stent simply could not be removed in the manner taught by Giantureo. Giantureo, thus teaches away from a thread positioned at other than an end of a stent, and contracting multiple stents of Giantureo would not be obvious to a person of ordinary skill in the art. For at least these reasons, Giantureo does not teach or suggest that displacement of the connector relative to the stent results in contraction of at least two of the plurality of annular segments.

C. Giantureo Does Not Teach A Thread Partially Encircling the Tubular Support Frame

Finally, Giantureo also does not teach or suggest “a thread at least partially encircling the tubular support frame outside of the circumference of the tubular support frame.” The Office asserts that Giantureo teaches “said support frame is surrounded on its outside by a thread (40).” Office Action p. 2, ¶ 2. However, the

eyes through which the thread of Giantureo passes are positioned on the circumference and not outside the circumference. In the very next paragraph of the Office Action, the Office acknowledges such, stating that eyes (20) are "arranged on the circumference." Office Action p. 2, ¶ 3. That the "thread . . . is passed through successive eyes around the circumference" is evident. Giantureo col. 4, lines 65-68; col. 5, lines 1-10. Therefore, at best, the thread of Giantureo is positioned at the circumference, and not outside of the circumference as recited in claim 1. (In fact, arguably, because the thread passes through the eyelets, the thread is actually positioned within the circumference.) Therefore, Giantureo does not teach or suggest a thread at least partially encircling the tubular support frame outside of the circumference of the tubular support frame.

For at least these reasons, Applicants submit that Giantureo does not teach all the elements of independent claim 1 as amended, and thus does not anticipate or render obvious claim 1. Furthermore, because dependent claims include all the elements of the claims from which they depend, Giantureo similarly does not anticipate or render obvious claims 2-11.

D. Landau Does Not Teach The Elements Missing From Giantureo

Landau does not cure the deficiencies of Giantureo. The Office relies upon Landau as teaching "connectors that may be formed from a radiopaque material for the purpose of allowing the connector to be used as a marker." Office Action p. 3, ¶ 8. However, the Office does not specify which element of Landau teaches this element, and Applicants do not find in Landau a connector as recited in the claims. "In rejecting claims for want of novelty or for obviousness, . . . [w]hen a reference is

complex or shows or describes inventions *other than that claimed by the applicant*, the particular part relied on *must be designated* [by the examiner] as nearly as practicable.” 37 CFR 1.104(c)(2) (emphasis added). *See also* MPEP 706.02(j) (“[T]he examiner should set forth in the Office action: (A) the relevant teaching of the prior art relied upon, *preferably with reference to the relevant column or page number(s) and line number(s) where appropriate.*”).

Landau does not teach or suggest “a connector positioned inside the tubular support frame to securely couple together the first and second thread ends,” as recited by claim 1. The connectors taught by Landau are “any structure used to form a joint or to join itself to another component or portion thereof. These connectors or connections establish a fluid flow path through various elements of the apparatus assembly, or system.” Doubtless, from this disclosure, the connectors of Landau are not a connector as recited in claim 1. That Landau teaches what is termed a connector is not sufficient to teach or suggest a connector as disclosed and recited in the present claims.

Moreover, despite the teaching in Landau that “a connector may be formed from a radiopaque material,” because the connectors of Landau are so different from a connector as recited in the claims, Applicants submit that it would not be obvious to combine the teachings Landau with the teachings of Giantureo as proposed by the Office. An ordinarily skilled artisan simply would not find such combination obvious. Therefore, Giantureo and Landau, in combination do not teach all the elements of claim 8, and thus do not render obvious claim 8 as amended.

Landau also does not teach that “displacement of the connector relative to the stent along a longitudinal axis of the stent results in contraction of at least two of the plurality of annular segments” and “a thread at least partially encircling the tubular support frame outside of the circumference of the tubular support frame.” Nor does the Office assert that Landau teaches these elements. For at least the foregoing reasons, Giantureo and Landau, in combination do not teach all the elements of claim 1 as amended, and thus do not render obvious the claim claims 1-11.

E. Cox Also Does Not Teach The Elements Missing From Giantureo

Cox also does not cure the deficiencies of Giantureo. Cox does not teach any of the elements missing from Giantureo, including “a connector positioned inside the tubular support frame to securely couple together the first and second thread ends,” “displacement of the connector relative to the stent along a longitudinal axis of the stent results in contraction of at least two of the plurality of annular segments” and “a thread at least partially encircling the tubular support frame outside of the circumference of the tubular support frame.” Nor does the Office assert otherwise. Accordingly, Giantureo, Landau, and Cox, individually or in combination do not anticipate or render obvious claims 1-11.

CONCLUSION

In view of the foregoing amendments and remarks, the Applicants submit that the claims define patentable subject matter and a Notice of Allowance is requested. Should questions exist after consideration of the foregoing, the Examiner is kindly requested to contact the Applicants' attorney at the telephone number given herein.

Respectfully submitted,

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